Source Water Assessment and Protection Update

Information for DHS staff and LPA counties on the California Drinking Water Source Assessment and Protection Program (DWSAP)

Issue 4 December 2000

Forest Service to Help with Assessments

The US Department of Agriculture (USDA) Forest Service operates or owns over 300 public water systems in 18 national forests in California. These are primarily transient non-community water systems; some are under the regulatory jurisdiction of DHS and others are under LPA jurisdiction.

As part of a federal-state cooperative effort, the Forest Service will be assisting in data collection for DWSAP assessments. This effort is not intended to duplicate work on Forest Service water systems already in progress by LPAs or DHS districts. Staff may continue any current work with the Forest Service. Forest Service staff are not expected to provide this information more than once.

Specifically, staff at the national forests will be providing the following for ground water sources:

1. Reviewing, and modifying as necessary, the list of Forest Service public water systems. (This list was generated from PICME by Leah Walker. A copy will be sent to each DHS district and LPA.)
2. Identifying source locations (without GPS).
3. Collecting data for assessments, based on procedures for transient non-community water systems (see related article, page 3). Specifically this includes:
   - Identifying one protection zone around sources
   - Identifying the presence or absence of PCAs within the protection zone
   - Preparing well data sheets or spring data sheets, as appropriate, with available information
   - Determining Physical Barrier Effectiveness

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Clarifications to Guidance

Delineating Protection Zones for Wells Close Together

There have been many questions raised since this draft guidance was released. The most frequent comment was that the suggested procedures could result in extremely large protection zones. Usually this is a result of the very conservative recommendation to use the shortest screened interval for all the affected wells.

To address the concerns raised, consider the following suggestions:

- Use an average screened interval, if appropriate. A weighted average is even better, with weight given to the relative pumping capacity or annual production of each well.
- The intent of the guidance was to ensure that sources were not under protected by neglecting the influence of multiple wells pumping together. As you do the delineation calculations, try various methods, view the results, and determine what makes the most sense. ❖

TurboSWAP and Mapping Tool Update

TurboSWAP – During the first week of January, DHS districts and LPAs will each receive a CD with TurboSWAP and the latest version of the GPS DMS.

Mapping Tool – Before the end of January the Mapping Tool will be available to DHS and LPA staff over the Internet. ❖

Acronyms used in this Newsletter

DHS – California Department of Health Services, Division of Drinking Water and Environmental Management

DMS – GPS Data Management System (data dictionary software for GPS units developed by UCD-ICE)

GIS – Geographic Information System

GPS – Global Positioning System

LPA – Local Primacy Agency (a county that has been delegated primacy for the drinking water regulatory program for small water systems)

UCD–ICE – University of California, Davis Information Center for the Environment (DHS contractor for GIS, GPS and other data tools).

EPA – US Environmental Protection Agency

GPS Progress

All DHS districts and LPA counties should have the GPS DMS software installed in their offices. UCD-ICE is continuing to work with several LPA counties to resolve problems with the data send process.

After some initial delays, the GPS data send function should be working now for all DHS districts. If a district has not yet done so, please send some GPS data so that we can be assured that the process works.

If you encounter any difficulties, send a note to Sky Harrison at UCD-ICE (sky@ice.ucdavis.edu).

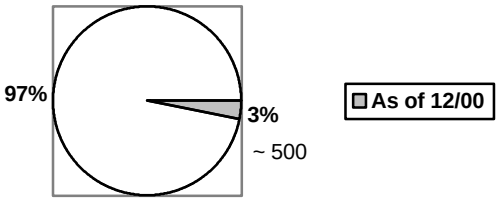
To date, UCD-ICE has received data from the following DHS districts:

Mendocino	Merced
San Bernardino	San Francisco
San Diego	Santa Ana
Santa Clara	Sonoma
Tehachapi	Visalia

Data has also been received from the following LPAs:

Butte	Kings
Madera	Monterey
Placer	Riverside
San Bernardino	San Joaquin
Santa Barbara	Tulare

Sources with GPS Locations *



* Submitted through GPS DMS

GPS-DMS Update Process

As of January 1, 2001, UCD-ICE will be posting updates for the GPS DMS program. The updates include differentially corrected latitudes and longitudes and new sources that have been entered into the PICME database.

Updates will be posted on the 1st and 15th of every month. GPS DMS users should do the update process at least twice per month, or may choose to update each time they use the GPS DMS. Procedures for doing an update are included in the GPS manual. ❖

SWAP E-mail List Server

UCD-ICE has set up a list server to provide a way for DHS and LPA staff to share information about the GPS software and other upcoming DWSAP tools. As previously announced, a web-based newsgroup was set up, but many DHS districts and LPAs could not access the newsgroup because of firewall issues.

If someone has a question or comment they can send a message to the list server (swap@ucdavis.edu). A message sent to this address will automatically be received by everyone that is subscribed to the list.

All DHS Power Users, district and regional engineers and LPA GPS users have been subscribed to the list server. Any other staff that would like to be informed of comments, questions and responses regarding GPS and other tools may subscribe by sending an e-mail to Sky Harrison (sky@ice.ucdavis.edu). ❖

FREE Maps

To get a small, simple hazard map you can go to www:Nearmyhome.com. Type in the zip code for the area of concern, click on 'Go', and you will see a small map on the screen. Move around to center the map on the area you want. Click on the tab above the map to view 100-year flood plain areas.

To get a more detailed FREE map, go to the bottom of the screen where it says, "Get a free, quick summary." Enter the address of the site of concern. You will be sent to another screen that asks you to verify this location. If the location is correct, click on "The Map is Correct – Proceed". Now you will be sent to a screen that asks for some information about you. Enter a name and an e-mail address (the map you request will be e-mailed to you, and will also be displayed on the screen in the next step). Make sure to click "No" on the two options below if you want to avoid being sent e-mail offers. Then click on "Get Free Report".

You will be sent to a screen that says, "Your report is ready on-line!" Click on "View Your Report". You will see a street map of your site with two circles around the site. One circle is a 1/8 mile radius (660 feet); the other is a ½ mile radius (2640 feet). The map shows symbols for approximate locations of Superfund sites, hazardous waste sites, storage tanks, solid waste landfills, railroads, airport runways, military bases, parks, and water.

This map may be useful with the free hazard listing you can obtain on-line as described on Page 3. ❖

Water Replenishment District Contracts for Assessments

By Nancy Matsumoto
Water Replenishment District of Southern California

The Water Replenishment District of Southern California (WRD) manages the groundwater resources of two of the most utilized groundwater basins in Southern California, the Central and West Coast Basins of Los Angeles County. WRD's mission is to maintain a sufficient supply of high quality groundwater in the basins through progressive, cost-effective, and environmentally sensitive management. One of the means by which WRD has chosen to fulfill this mission is to manage the preparation of Drinking Water Source Assessment and Protection Program (DWSAP) reports for its pumpers, who operate approximately 250 potable water supply wells within the District's boundaries.

As part of this project, WRD has contracted with HSI Geotrans, a groundwater resources and water supply specialty firm, to prepare DWSAP reports for the pumpers. The total contract amount, $149,280, is based upon the number of wells requiring DWSAP reports. WRD and HSI Geotrans will work closely with the CADHS and the pumpers to ensure that the DWSAP program requirements are met. It is anticipated that all DWSAP reports under WRD's management will be completed by August 2001. ❖

FREE Hazard Listing

You can obtain a FREE listing of underground storage tank sites, Superfund sites, spill sites, water system wells, etc. within the vicinity of a drinking water source. VISTACheck is an on-line tool that uses a proprietary database that includes information from Federal, State and some local agencies.

This listing may be helpful as you prepare the PCA inventory. The facilities from this listing might be PCAs. Note that not every facility is a PCA, nor are all PCAs on this list. Some of the data may be inaccurate. This is just one more tool to help you with an assessment.

The listing is available free over the Internet. There are maps (and more detailed reports) available from this site and others, but they are not free. DHS will not reimburse staff for these types of maps and reports.

Detailed instructions for using the site are posted on the DWSAP website at http://www.dhs.ca.gov/ps/ddwem/dwsap/guidance/index.htm - SPECIFIC GUIDANCE DOCUMENTS. ❖

DWSAP Forms for Transient Water Systems Available

TurboSWAP Version to Follow

Assessment forms for ground water sources for transient non-community water systems are now available. You may print a copy from the DWSAP website (http://www.dhs.ca.gov/ps/ddwem/dwsap/guidance/index.htm - SPECIFIC GUIDANCE DOCUMENTS). A version of TurboSWAP that includes the transient forms will follow at a later date.

The procedures for transient systems are essentially the same as the standard assessments, but they have been simplified. Changes for transient system sources include:

- Only one protection zone must be delineated, and a fixed radius may be used (600 feet radius in porous media, 900 feet radius in fractured rock).
- The PCA inventory is much shorter, consisting only of PCAs associated with acute health risks (microbial and nitrate sources), and those with Very High or High risk rankings.
- The Physical Barrier Effectiveness procedures are simplified.
- The Well Data Sheet is briefer (and is available as in Excel format on the DHS website).
- As a result of defining only one zone and a short list of PCAs, the source is considered most vulnerable to any PCAs that are present.

Note that the standard DWSAP assessment procedures may be used for transient systems. Using the simpler forms is an option. ❖

Forest Service
(continued)

Forms (MS Word and Excel documents) were transmitted to the national forests in December. The completed information is to be submitted to the Forest Service regional headquarters in February 2001. The Forest Service representative, Dave McCauley, will send the information to Leah Walker and she will distribute it to the appropriate DHS district or LPA.

DHS districts and LPAs are to complete the assessments and prepare maps. Copies of the completed assessments are to be sent to Leah Walker for distribution back to the Forest Service. ❖

Estimating Pumping Capacity

DWSAP assessments use the pumping capacity of a well for delineating the size of protection zones and for determining physical barrier effectiveness. To determine pumping capacity, it is best to use the known capacity of the well pump. If this information is not available, the total production data for the water system may be used to estimate the pumping capacity. If this information is not available, pumping capacity can be estimated based on nearby systems of similar size.

However, sometimes there is no production data or other information available to use to determine the pumping capacity. In this case, **a statewide average of 0.62 gallons per minute per service connection may be used to estimate pumping capacity**. Note that this is a statewide average, which you may want to adjust accordingly for water system demands in your area.

This value was determined based on DWR urban water use figures and a review of other data used to estimate water demands.

Also consider:

- Increasing the rate in unmetered systems (by approximately 10%).
- Increasing the rate in warm, high demand areas (as much as doubling the rate or more)
- Decreasing the rate if the area served is strictly mobile homes spaced closely together
- These estimates may not apply in areas that have significant non-residential use such as industrial, colleges/universities, and agriculture. ❖

LPA DWSAP Invoices

Reminder! Submit all invoices for the 1999-2000 fiscal year as soon as possible. Remember to include a narrative description of work accomplished, and attach receipts for equipment purchases.

The invoices must be consistent with budgeted line items, including benefits and overhead percentages. If these numbers have changed the budget must be revised. Also, make sure that the invoice includes the LPA name, address, and the invoice number. ❖

Submit all DWSAP invoices and contract changes to:
Department of Health Services
Drinking Water State Revolving Fund
Attention: Angela Duromola
P.O. Box 942732
Sacramento, CA 94234-7320
aduromol@dhs.ca.gov

Data Advisory Committee (DAC) Update

The DWSAP Data Advisory Committee continues to meet every two to three months. In October the DAC heard a presentation by Steve Reynolds of the California Department of Conservation (DOC), Office of Mine Reclamation. Steve described the DOC's ambitious project to inventory abandoned mines in the state. The DOC estimates that there are 39,000 historic and inactive mines. Of these, approximately 11% are believed to have significant environmental issues, and 84% present physical hazards. The Department is preparing a GIS layer of the abandoned mine inventory. The website for the project is http://www.consrv.ca.gov/omr/AMLU/amlurpt/index.htm.

Also at the October meeting, Roger Pierno of the Santa Clara Valley Water District gave a demonstration of the District's tool for mapping source water protection zones. The mapping tool utilizes the District's geographic information system (GIS), and uses well information, ground water flow directions, and aquifer porosity to do the DWSAP delineation calculations and prepare a map. For more information contact Roger Pierno at rpierno@scvwd.dst.ca.us.

At the December meeting, Elizabeth Janes of US EPA Region 9 gave a brief description of the Underground Injection Control (UIC) program. In particular she spoke about Class V wells, which include shallow injection and disposal wells. Because these types of wells don't require a permit, they are difficult to account for. EPA has an inventory of approximately 9,700 wells in 1,800 sites throughout the state. EPA has developed a GIS layer of about 1,200 of the shallow well disposal sites. For more information contact Elizabeth Janes at janes.elizabeth@epamail.epa.gov.

For more information about upcoming DAC meetings contact Leah Walker at lwalker2@dhs.ca.gov. ❖

DWSAP Contact Information

Questions, comments or concerns about this update? Send them to Leah Walker at lwalker2@dhs.ca.gov or call 707-576-2295. The mailing address is:

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